



CHEMISTRY NMDCAT

(UNIT-10)

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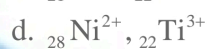
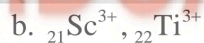
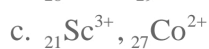
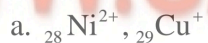
TOPICS

- ✓ **TRANSITION ELEMENTS**
- ✓ **ENVIRONMENTAL CHEMISTRY**

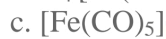
- Q.1** Which one pair has the same oxidation state of 'Cu'?
- a. $[\text{Cu}(\text{NH}_3)_4]\text{SO}_4$, CuSO_4 b. CuCl_2 , Cu_2O
- c. Cu_2Cl_2 , CuSO_4 d. Cu , $[\text{Cu}(\text{NH}_3)_4]^{+2}$
- Q.2** $[\text{Ti}(\text{H}_2\text{O})_6]^{3+}$ looks violet because it absorbs _____ light.
- a. Red b. White
- c. Purple d. Yellow
- Q.3** Acid rain has pH
- a. 7 b. 5.6
- c. Less than 5 d. Greater than 7
- Q.4** If a compound have coordination number 2, it has _____ geometry
- a. Triangular planar b. Octahedral
- c. Tetrahedral d. Linear
- Q.5** Which oxide is major source of acid deposition in atmosphere
- a. NO_2 b. CO_2
- c. SO_2 d. Al_2O_3
- Q.6** Temporary acid rain in areas of volcanic eruption is due to
- a. SO_2 b. NO_2
- c. CO_2 d. HCl
- Q.7** Acid rain causes damage to
- a. Building materials b. Plants
- c. Aquatic life d. All of these
- Q.8** d-block elements are called as
- a. Normal elements b. Representative elements
- c. Inner transition elements d. Outer transition elements
- Q.9** First transition series consist of _____ elements
- a. 20 b. 10
- c. 40 d. 8
- Q.10** Which complex from the following can show geometrical isomerism
- a. $[\text{Pt}(\text{C}_2\text{O}_4)_2]^{-2}$ b. $[\text{Co}(\text{NH}_3)_6]^{+3}$



- c. $[\text{PtCl}_2(\text{NH}_3)_2]$ d. $[\text{Cu}(\text{NH}_3)_4]^{+2}$
- Q.11** Which electronic configuration represents the tri-positive cation with atomic number 23
- a. $[\text{Ar}] 3d^1, 4s^2$ b. $[\text{Ar}] 4s^0, 3d^2$
c. $[\text{Ar}] 3d^3, 4s^0$ d. $[\text{Ar}] 3d^3, 4s^2$
- Q.12** Which two elements of first transition series show anomalous electronic configuration
- a. Cu and Zn b. Cr and Cu
c. Mn and Ni d. Sc and Co
- Q.13** Oxidation state of first transition series increases upto
- a. Ni b. Cu
c. Mn d. Fe
- Q.14** Electronic configuration of Nickel (Ni) is
- a. $[\text{Ar}] \begin{array}{|c|c|c|c|c|c|} \hline \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow\downarrow \\ \hline \end{array}$ b. $[\text{Ar}] \begin{array}{|c|c|c|c|c|c|} \hline \uparrow\downarrow & \uparrow\downarrow & \uparrow\downarrow & \uparrow & \uparrow & \uparrow\downarrow \\ \hline \end{array}$
c. $[\text{Ar}] \begin{array}{|c|c|c|c|c|c|} \hline \uparrow\downarrow & \uparrow\downarrow & \uparrow\downarrow & \uparrow\downarrow & \uparrow\downarrow & \uparrow \\ \hline \end{array}$ d. $[\text{Ar}] \begin{array}{|c|c|c|c|c|c|} \hline \uparrow\downarrow & \uparrow\downarrow & \uparrow\downarrow & \uparrow & \uparrow & \uparrow\downarrow \\ \hline \end{array}$
- Q.15** Colour of transition metal complexes is due to
- a. Variable oxidation state b. d-d Transition
c. Unpaired electrons d. High ionization energy
- Q.16** Most common oxidation state shown by 3-d transition elements are
- a. +2 b. +3
c. +1 d. +4
- Q.17** In which complex transition metal show zero oxidation state
- a. $\text{K}_4[\text{Fe}(\text{CN})_6]$ b. $[\text{Ni}(\text{CO})_4]$
c. $[\text{Ag}(\text{NH}_3)_2]\text{Cl}$ d. $\text{K}_2[\text{Pt}(\text{Cl})_6]$
- Q.18** All are bidentate except
- a. Oxalato b. Hydrazine
c. Cyano d. Phenyl hydrazine
- Q.19** The central metal atom or ion along with ligands is called
- a. Co-ordination sphere b. Co-ordination Number
c. Co-ordination compound d. Chelate
- Q.20** Which catalyst is commonly used during hydrogenation of vegetable oil
- a. Pt b. Pd
c. Ni d. All of these
- Q.21** Correct name of the given complex is $[\text{PtCl}(\text{NO}_2)(\text{NH}_3)_4]\text{SO}_4$
- a. Tetraammine chloronitro platinum (IV) Sulphate
b. Tetraammine chloronitro nitrochloro (II) Sulphate
c. Tetraammine chloronitro platinum (II) Sulphate
d. Tetraammine chloronitro nitrochloro (IV) Sulphate
- Q.22** Which element shows maximum unpaired electron in +3 oxidation state
- a. Fe b. Cr
c. Mn d. Co
- Q.23** Which complex is more stable?
- a. $[\text{Ni}(\text{CO})_4]$ b. $\text{K}_4[\text{Fe}(\text{CN})_6]$
c. $[\text{Pt}(\text{C}_2\text{O}_4)_2]^{-2}$ d. $[\text{MnCl}_4]^{-2}$
- Q.24** In which of the following pairs both the ions are coloured in aqueous solution



Q.25 Which of the following transition metal complex has dsp^3 hybridization



Q.26 Maximum binding energy among 3d series is shown by

a. Ti

b. V

c. Cr

d. Mn

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Q.27 The general electronic configuration of first outer transition series (d-Block) is

- a. $nd^{1-10}(n-1)s^{1-2}$
- b. $(n-1)d^{1-10}ns^{1-2}$
- c. $nd^{1-10}ns^{1-2}$
- d. $(n-1)d^{1-10}(n-1)s^{1-2}$

Q.28 Which of the following group contains coinage metals

- a. IB
- b. IIB
- c. IIIB
- d. IVB

Q.29 The magnetic moment (μ) is related to the number of unpaired electrons (n) by the equation

- a. $\mu = \sqrt{n+2}$
- b. $\mu = n\sqrt{n+2}$
- c. $\mu = \sqrt{n(n+2)^2}$
- d. $\mu = \sqrt{n(n+2)}$

Q.30 Which of the following element is not ferromagnetic in nature

- a. Fe
- b. Co
- c. Ni
- d. Zn

Q.31 Catalyst used for decomposition of hydrogen peroxide is

- a. V_2O_5
- b. MnO_2
- c. ZnO
- d. Cr_2O_3

Q.32 Bronze is an alloy of

- a. Cu and Zn
- b. Cu and Sn
- c. Cu and Ni
- d. Zn and Fe

Q.33 A hexadentate ligand is

- a. Ethylene diammine
- b. Ethylene diammine tetraacetate
- c. Ethylene Glycol
- d. Glycerol

Q.34 Non-Typical transition element of IIIB group is

- a. Zn
- b. Cd
- c. Sc
- d. Hg

Q.35 Which of the following group show the abnormal electronic configuration

- a. IIIB
- b. IIB
- c. VIB
- d. IVB

Q.36 The formation of ozone in the atmosphere is carried out by:

- a. Oxidation
- b. Photochemical reactions
- c. Reduction
- d. Redox reactions



- Q.37 Air pollution causes:**
a. Respiratory troubles in older people b. Acid rain
c. The depletion of the ozone layer d. All of the above
- Q.38 Which statement is wrong:**
a. The amount of ozone is greater in the region closer to the equator
b. In the polar region it acts as pollutant
c. Ozone acts as filter for UV radiations
d. CFCs play effective role in removing O_3 in the stratosphere
- Q.39 Which of these reactions in the atmosphere leads to acid rain?**
a. Chlorine + water vapours \rightarrow hypochlorous acid
b. Sulphur trioxide + water \rightarrow sulphuric acid
c. Sulphur + oxygen \rightarrow sulphur dioxide
d. Carbon dioxide + hydrogen \rightarrow hydrogen carbonate
- Q.40 Peroxyacetyl-nitrate affects:**
a. Eyes b. Stomach
c. Ears d. Nose
- Q.41 Plastics are pollution problem because many plastics:**
a. Burn to produce toxic ash b. Burn to produce toxic fumes
c. Disintegrate to produce radiations d. Decompose to produce toxic fumes
- Q.42 A single chlorine free radical can destroy how many ozone molecules:**
a. 100 b. 10000
c. 100000 d. 10
- Q.43 The gas that binds strongly with haemoglobin and forms a complex is:**
a. Carbon monoxide b. Methane
c. Carbon dioxide d. Nitrogen dioxide
- Q.44 The normal amount of overhead ozone is about**
a. 150 DU b. 350 DU
c. 250 DU d. 450 DU
- Q.45 The better substituent for CFCs to avoid O_3 depletion is**
a. Freon b. Hydrofluorocarbons
c. Fluoro-chloro methanes d. All of these
- Q.46 The metal leached by acid rain of soil and causes suffocation in gills of fishes**
a. Calcium b. Aluminium
c. Magnesium d. Iron
- Q.47 Paddy fields produce a significant amount of _____ in the atmosphere as a pollutant**
a. CO b. CO_2
c. CH_4 d. SO_x
- Q.48 The temperature in troposphere decreases with the increasing altitude, from**
a. $56^\circ C$ to $15^\circ C$ b. $-2^\circ C$ to $-56^\circ C$
c. $-56^\circ C$ to $-2^\circ C$ d. $15^\circ C$ to $-56^\circ C$
- Q.49 Ozone hole refers to**
a. A hole in ozone layer
b. Reduction in thickness in ozone layer in stratosphere
c. Reduction in thickness in ozone layer in troposphere
d. Increased concentration of ozone
- Q.50 Residence time of NO and NO_2 in atmosphere respectively**
a. 3 and 4 days b. 3 and 2 days
c. 4 and 3 days d. 4 and 2 days



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Chem T-10

Chemistry				
01- a	11- b	21- a	31- b	41- b
02- d	12- b	22- a	32- b	42- c
03- c	13- c	23- c	33- b	43- a
04- d	14- d	24- d	34- c	44- b
05- c	15- b	25- c	35- c	45- B
06- d	16- a	26- b	36- b	46- b
07- d	17- b	27- b	37- d	47- c
08- d	18- c	28- a	38- a	48- d
09- b	19- a	29- d	39- b	49- b
10- c	20- a c	30- d	40- a	50- c
Anjan				

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Regards.Huzaiifa Saeed,Usama Sohail

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